

REMARKS

With entry of the amendment, claims 1-13, 17-19 and 21-34 are pending. Non-elected claims 14-16, and claim 20 have been canceled. The rejection of claim 20 is therefore moot. Claims 1, 17 and 19 have been amended, claims 2-13 and 18 are unchanged and claims 21-34 have been added, leaving claims 2-13 and 18 unchanged.

Support for amendments to claims 1 and 17 can be found throughout the originally-filed specification and drawings. For example, as stated on page 8, beginning on line 5 of the "Controller 14" section of the specification, "the operative end of the X, Y controller 14, as illustrated in Figure 2, may be positioned in such a manner that the X, Y controller 14 will move the deposition substrate 25 underneath the deposition probe 12...." (as amended for editorial errors; see also Figure 2). By way of further example, as stated on page 9, beginning on line 8 of the "X,Y Translation Stage 18" of the specification, "...the X,Y translation stage may be positioned such that the loading substrate 27 can be moved into an operable position underneath the deposition probe 12." Other examples can be found throughout the originally-filed application. The amendment introduces no new matter, does not necessitate a new search, and places the claims in better form for consideration on appeal.

The first full paragraph on page 7, the second paragraph under the heading "Base 24" on page 8, and the first paragraph under the heading "Controller 14" on page 8 have been amended to correct minor editorial errors. The amendment introduces no new matter.

In view of the arguments below, Applicants respectfully request allowance of claims 1-13, 17-18 and 21-34.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102(a), § 102(e) or § 102(b)

Rejection of claims under 35 U.S.C. § 102(a) and (e) over Little *et al.*

Claims 1, 2, 7-10 and 17 stand rejected under 35 U.S.C. § 102(a) and (e) as being anticipated by Little *et al.* (U.S. Patent No. 6,024,925).

Amended independent claim 1 requires, in part:

“...an X, Y controller operably connected to the base wherein the X, Y controller is selectively positionable along an X axis and a Y axis, the X, Y controller further comprising a deposition substrate operably attached thereto and wherein the movement of the X, Y controller moves the deposition substrate between a first position and a second position, the second position being located under the deposition probe; and

an X, Y translation stage operably connected to the base wherein the X, Y translation stage is selectively positionable along an X axis and a Y axis, the X, Y translation stage further comprising a loading substrate operably attached thereto and wherein the movement of the X, Y translation stage moves the loading substrate between a first position and a second position, the second position being located under the deposition probe” (underlining added for emphasis).

Amended claim 17 requires, in part:

“...an X, Y controller operably attached to the Z controller; and

a deposition substrate operably affixed to the X, Y controller where the deposition substrate is selectively movable between a first position and a second position and wherein when the X, Y controller moves the deposition substrate to the second position the deposition substrate is positioned under the tip” (underlining added for emphasis).

Applicants respectfully submit that Little *et al.* do not teach, describe, or suggest an apparatus for creating a molecular array according to claim 1 or an apparatus for creating an array according to claim 17. With reference to Fig. 1, Little *et al.* teach a system 10 that includes a robotic assembly 16, a microliter plate of source material 20, a stage housing 22, a robotic arm 24, a stage 26, a pin assembly 38, and substrate elements 34. The robotic assembly 16 depicted in Fig. 1 is a gantry system that includes an XY table for moving the robotic arm about an XY plane, and further includes a Z axis actuator for moving the robotic arm orthogonally to that XY plane. In the depicted embodiment, the XY table is mounted to the Z actuator to move the entire table along the Z axis orthogonal to the XY plane. In this way, the robotic assembly 16 provides three degrees of freedom that allows the pin assembly

38 to be “disposed to any location above the substrates 34 and the source plate 20 which are shown in Fig. 1 as sitting on the stage 26 mounted to the robotic assembly 16” (Col. 6, lines 43-59; underlining added for emphasis). That is, the source plate 20 and substrates 34 as taught by Little *et al.* are fixed in the system 10 and are not movable between a first and second position relative to the pin assembly 38.

As discussed during the telephone interview on March 4, 2004, Little *et al.* do not teach, describe or suggest “...an X, Y controller...the X, Y controller further comprising a deposition substrate operably attached thereto and wherein the movement of the X, Y controller moves the deposition substrate between a first position and a second position, the second position being located under the deposition probe; and an X, Y translation stage...the X, Y translation stage further comprising a loading substrate operably attached thereto and wherein the movement of the X, Y translation stage moves the loading substrate between a first position and a second position, the second position being located under the deposition probe,” as required by claim 1 (underlining added for emphasis). As further discussed in the telephone interview on March 4, 2004, Little *et al.* do not teach, describe or suggest “...an X, Y controller...; and a deposition substrate operably affixed to the X, Y controller where the deposition substrate is selectively movable between a first position and a second position and wherein when the X, Y controller moves the deposition substrate to the second position the deposition substrate is positioned under the tip,” as required by claim 17 (underlining added for emphasis).

Because claim 1 is not anticipated by Little *et al.*, each of claims 2 and 7-10, which depend from and further limit claim 1, is novel over the art of record for the reasons set forth above and upon other features, elements and limitations recited in claims 2 and 7-10 but not discussed herein.

Applicants respectfully submit that, because the cited references fail to teach all of the claim limitations, the rejection of claims 1, 2, 7-10 and 17 under 35 U.S.C. § 102(a) or § 102(e) is improper. Accordingly, Applicants request withdrawal of the rejection.

Rejection of claims under 35 U.S.C. § 102(b) over Gamble *et al.*

Claims 1, 2, 10 and 17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Gamble *et al.* (U.S. Patent No. 5,981,733). Applicants respectfully submit that Gamble *et*

al. do not teach, describe or suggest an apparatus for creating a molecular array according to claim 1 or an apparatus for creating an array according to claim 17.

Referring to FIGS. 12A – 12C, Gamble *et al.* teach a piezoelectric jetting device 46 (pointing up) mounted on a Z-translator 142 which is attached to a vertical support 144. Substrate 20 is held in a substrate holder 22 and rotated to face a wash station 76 and a reaction chamber 26 in turn (see Gamble *et al.*, col. 10, lines 9-11 and 47-52). In operation, the substrate 20 is first rotated to face the jetting system 24 as in FIG. 12A. Then, the jet 46 is raised to position a nozzle 68 of the jet 46 the proper distance from the substrate 20. After the desired pattern is jetted, the jet 46 is retracted. Then, the substrate 20 rotates to face either the wash station 76 or the reaction chamber 26, according to the desired sequence (*Id.*, col. 10, lines 59-65). In other embodiments taught by Gamble *et al.*, the substrate holder 22 can move the substrate 20 from station to station.

As discussed in the telephone interview on March 4, 2004, Gamble *et al.* do not teach, describe or suggest “...an X, Y controller...the X, Y controller further comprising a deposition substrate operably attached thereto and wherein the movement of the X, Y controller moves the deposition substrate between a first position and a second position, the second position being located under the deposition probe; and an X, Y translation stage...the X, Y translation stage further comprising a loading substrate operably attached thereto and wherein the movement of the X, Y translation stage moves the loading substrate between a first position and a second position, the second position being located under the deposition probe,” as required by claim 1 (underlining added for emphasis). As further discussed during the telephone interview, Gamble *et al.* do not teach, describe or suggest “...an X, Y controller...; and a deposition substrate operably affixed to the X, Y controller where the deposition substrate is selectively movable between a first position and a second position and wherein when the X, Y controller moves the deposition substrate to the second position the deposition substrate is positioned under the tip,” as required by claim 17 (underlining added for emphasis).

Because claim 1 is not anticipated by Gamble *et al.*, each of claims 2 and 10, which depend from and further limit claim 1, is novel over Gamble *et al.* for the reasons set forth above and upon other features, elements and limitations recited in claims 2 and 10, but not discussed herein.

Applicants respectfully submit that, because the cited references fail to teach all of the claim limitations, the rejection of claims 1, 2, 10, and 17 under 35 U.S.C. 102(b) is improper. Accordingly, Applicants request withdrawal of the rejections.

CLAIM REJECTIONS UNDER § 103(a)

Rejections under 35 U.S.C. § 103(a) over Little *et al.* in view of Regan *et al.*

Claims 3, 4, 11 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Little *et al.* in view of Regan *et al.* (U.S. Patent No. 6,395,554).

Claims 3, 4 and 11 are each ultimately dependent from claim 1, and claim 18 depends from claim 17. Combining Little *et al.* with Regan *et al.* does not cure the deficiencies of Little *et al.* in teaching all of the claim limitations of independent claims 1 and 17. Dependent claims 3, 4, 11 and 18 are, therefore, not unpatentable under 35 U.S.C. 103(a) over the combination of references based upon claims 1 and 17 for the reasons set forth above and upon other features, elements and limitations recited in claims 3, 4, 11 and 18 but not discussed herein.

Because the combination of publications fails to teach or suggest all of the claim limitations, Applicants respectfully submit that a case of prima facie obviousness has not been established and request withdrawal of the rejections of claims 3, 4, 11 and 18 under 35 U.S.C. § 103(a).

Rejections under 35 U.S.C. § 103(a) over Little *et al.* in view of Tonucci *et al.*, in view of Anderson *et al.*, in view of Anderson *et al.* further in view of Regan *et al.* and Morozov *et al.*

Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Little *et al.* in view of Tonucci *et al.* (U.S. Patent No. 6,087,274). Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Little *et al.* in view of Anderson *et al.* (U.S. Patent No. 5,993,627). Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Little *et al.* in view of Anderson *et al.* as applied to claim 12 and further in view of Regan *et al.* and Morozov *et al.* (U.S. Patent No. 6,350,609).

Little *et al.* is cited for the reasons given for rejecting claim 1 under 35 U.S.C. § 102(e). Claims 5, 6, 12 and 13 are each ultimately dependent from claim 1. Tonucci *et al.*,

Anderson *et al.*, Regan *et al.*, and/or Morozov *et al.* were cited as teaching the further limitations of claims 5, 6, 12, or 13. However, the cited art does not cure the deficiencies of Little *et al.* in teaching all of the claim limitations of independent claim 1, as discussed above. Dependent claims 5, 6, 12, and 13 are therefore not unpatentable under 35 U.S.C. § 103(a) over the combination of references based upon claim 1 for the reasons set forth above, and upon other features, elements and limitations claimed in claims 5, 6, 12, and 13 but not discussed herein.

Because the combination of publications fails to teach or suggest all of the claim limitations, Applicants respectfully submit that a case of prima facie obviousness has not been established and request withdrawal of the rejections of claims 5, 6, 12, and 13 under 35 U.S.C. § 103(a).

Rejections under 35 U.S.C. § 103(a) over Little *et al.* in view of Regan *et al.* and further in view of Mirkin *et al.*

Claim 19 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Little *et al.* in view of Regan *et al.* as applied to Claim 20 above and further in view of Mirkin *et al.* (U.S. Patent Application Publication No. 2002/0063212).

Because claim 20 is canceled by this amendment, claim 19 has been amended to depend from claim 17. Mirkin *et al.* do not cure the deficiencies of Little *et al.* and Gamble *et al.* in teaching all of the claim limitations of independent claim 17, as discussed above. Dependent claim 19 is therefore not unpatentable under 35 U.S.C. § 103(a) over the combination of references based upon claim 17 for the reasons set forth above, and upon other features, elements and limitations claimed in claim 19 but not discussed herein.

Because the combination of publications fails to teach or suggest all of the claim limitations, Applicants respectfully submit that a case of prima facie obviousness has not been established and request withdrawal of the rejections of claim 19 under 35 U.S.C. § 103(a).

NEW CLAIMS

New claims 21-34 have been added to the application to further define that which Applicants regard as the invention. As discussed in the telephone interview with the

Examiner on March 4, 2004, new claim 21 is an amended form of claim 21 from copending U.S. Application Serial No. 10/128,727, and new claim 34 is an amended form of claim 36 from copending U.S. Application Serial No. 10/128,727 (the '727 application), which is a continuation of the present application. Because the '727 application being examined together with the instant application, the Examiner would favorably consider Applicants' request to amend the present application to include claims from the '727 application in favor of allowing the '727 application to go abandoned.

Applicants respectfully submit that new claims 21-34 are in condition for allowance.

DOUBLE PATENTING - CLAIM REJECTIONS UNDER § 101

Claim 1 stands provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of claim 1 of copending U.S. Application Serial No. 10/128,727. As mentioned above, Applicants plan to abandon U.S. Application Serial No. 10/128,727. Applicants believe the provisional rejection of claim 1 under 35 U.S.C. § 101 will be rendered moot.

DOUBLE PATENTING - NONSTATUTORY

With the previous response of September 25, 2003, Applicants submitted a terminal disclaimer intended to obviate the judicially created doctrine of obviousness-type provisional double patenting rejection of claims 2-13 and 17-20 over the '727 application. However, Applicants inadvertently used a terminal disclaimer to obviate a double patenting rejection over a prior patent. Clearly, that terminal disclaimer has no effect, because it refers to the term of the patent, when the "patent" identified in the disclaimer is in fact an application. As indicated previously, Applicants intend to allow the '727 application to go abandoned. Therefore, the provisional terminal disclaimer has no effect, and the abandonment of the '727 application will have no effect on the term of any patent issuing from the instant application.


CONCLUSION

As the application is now in condition for allowance, Applicants respectfully request withdrawal of all rejections and allowance of the claims.

Appl. No. 09/929,865
Amendment after Final dated March 24, 2004
Response to final Office Action of December 24, 2003

This response is accompanied by check number 50063 in the amount of \$90.00 to cover the fee for the new claims. No other fee is believed due in connection with this submission. However, if a fee is owing, please charge such fee to Deposit Account No. 50-0842.

Respectfully submitted,



Jill A. Fahrlander
Reg. No. 42,518

File No. 016348-9005

Michael Best & Friedrich LLP
One South Pinckney Street
P. O. Box 1806
Madison, WI 53701-1806
(608) 257-3501